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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,219	09/30/2003	Richard N. Codos	LPPT-16	9875

26875 7590 08/12/2004
WOOD, HERRON & EVANS, LLP
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EXAMINER

SHAH, MANISH S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/675,219	Applicant(s) CODOS ET AL.	
	Examiner Manish S. Shah	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-37 and 48-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-37, 48-64 and 66-84 is/are rejected.
- 7) ☒ Claim(s) 65 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/22/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Gonzalez (# US 6561642).

Gonzalez discloses a method of printing on textiles including removing fibers from the substrate and then inkjet printing onto the substrate (see figure: 3-5), wherein removing of fiber includes shaving the surface or singeing the surface of the substrate (see figure: 6A, 6B; column: 6, line: 55-67). They also disclose that the removing of the fibers is performed on the substrate when supported on the frame of a printing machine; and the printing is carried out while the substrate is still supported on the frame of the printing machine (see figure: 1).

2. Claims 76-81 & 83-84 are rejected under 35 U.S.C. 102(e) as being anticipated by Gonzalez (# US 6561642).

Gonzalez discloses an inkjet printing apparatus and method of printing on textiles including a printing station, having an inkjet head (element: 40, figure: 1); a web

guide configured and positioned to guide a substrate in to print station and maintain a tension (figure: 1); the printing station being configured to provide a gap adjacent the substrate maintained in tension through the printing station on the opposite side of the substrate from the print head (element: 80, 85, figure: 1); heated surface or heating elements down stream of the printing station (element: 200, 240, figure: 1), wherein heated surface is convex curved surface (element: 200, 220, 225, 260; figure: 1).

3. Claims 61-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Codos et al (# WO 01/17780 A1).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Codos discloses an inkjet printing apparatus including an inkjet print head configured to jet UV curable ink onto a substrate (element: 25); a UV curing head configured to at least partially cure UV curable ink jetted onto the substrate (element: 24); and a heated surface configured to thermally contact the substrate having the at least partially cured UV curable ink thereon, wherein heated surface is a heated plate (element: 26; page: 5, line: 10-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 48-50, 64 & 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Codos et al. (# WO 01/17780 A1) in view of Gonzalez (# US 6561642).

Codos et al. discloses a method of printing onto textiles comprising: providing a substrate support with a layer of non-stick protective material; supporting a textile having pores therein above the substrate support with the layer of non-stick protective sheet material between the substrate support and the substrate (element: 15, 17 & 18); jetting UV curable ink onto the substrate with some of the ink passing through the pores of the substrate onto the layer of material (element: 25); exposing the jetted UV curable ink to UV light (element: 24 see Abstract; figure; page: 6, line: 20 to page: 8, line: 14).

Codos et al. differs from the claim of the present invention in that: (1) removing the substrate from the support. (2) The non-stick protective material is a coating of material on the support to which UV ink, jetted thereon and at least partially cured, has an adhesive force sufficiently high to prevent such ink from being wiped from the coating by the friction of the substrate sliding over the support, but has an adhesive force that is, or can be made, sufficiently low to allow such ink to be cleaned from the

support; and the textile is supported on the substrate support in contact with the layer of non-stick protective sheet material.

Gonzalez teaches that to decrease the printing time, and decrease the likelihood of damage to the web, printing method includes removing the substrate from the support (figure: 6A, 6B) and the non-stick protective material is a coating of material on the support to which UV ink, jetted thereon and at least partially cured, has an adhesive force sufficiently high to prevent such ink from being wiped from the coating by the friction of the substrate sliding over the support, but has an adhesive force that is, or can be made, sufficiently low to allow such ink to be cleaned from the support; and the textile is supported on the substrate support in contact with the layer of non-stick protective sheet material (element: 145; figure: 1). They also disclose that the non-stick layer is paper or plastic (TEFLON) (column: 7, line: 18-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of printing of Codos et al. by the aforementioned teaching of Gonzalez in order to have faster printing time without damaging the substrate, and because of that it decreases the cost of material.

5. Claims 51-60, 68-75 & 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez (# US 6561642) in view of Codos et al. (# WO 01/17780 A1).

Gonzalez discloses an inkjet printing apparatus comprising: a substrate table (element: 20, 30, figure: 1); a layer of non-stick protective material overlying the table so

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as to collect, and protect the substrate support from, ink jetted toward a porous substrate over the table and passing through the porous substrate (element: 145, figure: 1); an ink jet print head directed toward the table (element: 40, figure: 1). They also disclose that the non-stick protective layer is a coating of material on the table to which UV ink, jetted thereon and at least partially cured has an adhesive force sufficiently high to prevent such ink wiped from the coating by the friction of the substrate sliding over the table, but has an adhesive force that is or can be made, sufficiently low to allow such ink to be cleaned from the table (figure: 1; column: 6, line: 42-67; column: 7, line: 1-67). They also disclose that the guide structure includes transversely extending sets of pinch elements or roller, one set located upstream of the print head and one set located down stream of the print head, to hold the substrate in tension (figure: 1, element: 60, 85, 120, 140 & 160). They also disclose that the non-stick layer is paper or plastic (TEFLON) (column: 7, line: 18-20).

Gonzalez differs from the claim of the present invention in that (1) a curable head positioned adjacent the table to facilitate the curing of ink jetted from the print head toward a substrate over the table. (2) The curing head includes a primary UV light-curing source positioned to expose ink that has been jetted onto a substrate over the table. (3) The curing source is mounted on or near a carriage on which the print head is mounted so as to cure ink immediately after it reaches the substrate so that the dots of ink are frozen before they have a chance to flow into the substrate or spread. (4) The UV source has a focal length sufficiently long so that the light penetrates holes in the substrate and cures ink on the underlying layer.

Codos et al. teaches that to get the high quality printed image, inkjet recording apparatus including the curable head positioned adjacent the table to facilitate the curing of ink jetted from the print head toward a substrate over the table (element: 24) and the curing head includes a primary UV light-curing source positioned to expose ink that has been jetted onto a substrate over the table and the curing source is mounted on or near a carriage on which the print head is mounted so as to cure ink immediately after it reaches the substrate so that the dots of ink are frozen before they have a chance to flow into the substrate or spread (element: 24 & 26), wherein the UV source has a focal length sufficiently long so that the light penetrates holes in the substrate and cures ink on the underlying layer (see Abstract; page: 7, line: 24-39; page: 8, line: 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inkjet recording apparatus of Gonzales by the aforementioned teaching of Codos et al. in order to have color fast printed image and high quality printed image.

6. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Codos et al. (# WO 01/17780 A1) in view of Suzuki et al. (# US 6254231).

Codos et al. discloses an inkjet printing apparatus including a frame having a substrate support area thereon (figure: 1); an inkjet print head configured to jet onto a substrate support area a UV curable ink (element: 25); a UV source configured to substantially cure the UV curable ink on the substrate (element: 24).

Codos et al. differs from the claim of the present invention in that the head cleaning station beside the substrate support are having located thereat means for purging the print head and wiping the print head.

Suzuki et al. teaches that to get high quality printed image, and to get the longer life time of the print head, inkjet recording apparatus includes head cleaning station beside the substrate support are having located thereat means for purging the print head and wiping the print head (element: 61 & 62; figure: 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inkjet recording apparatus of Codos et al. by the aforementioned teaching of Suzuki et al. in order to remove the dust particle from the surface of the print head, which increases the life of the print head and gives a high quality printed image.

Allowable Subject Matter

7. Claim 65 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

(1) The method further comprising: providing a support surface behind the substrate with the space formed between the substrate and the support surface, the support surface having a layer of non-stick protective material thereon;

the textile being supported above the support surface with the layer of non-stick protective sheet material between the support surface and the space; the jetting includes jetting UV curable ink onto the substrate with some of the ink passing through the pores of the substrate onto the layer of material; removing the substrate to expose the support surface; wiping ink from the layer of protective sheet material. The jetting includes jetting UV curable ink onto the substrate with some of the ink passing through the pores of the substrate onto the layer of material; exposing the jetted UV curable ink to UV light; removing the substrate from above the support; wiping exposed UV curable ink from the layer of protective sheet material.

Conclusion

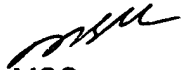
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah
Examiner
Art Unit 2853


MSS
7/30/04